AMENDMENTS TO THE CLAIMS

Claim 1. (Currently amended) A method for inducing ~~arteriogenesis, lymphangiogenesis, vasculogenesis, or~~ cardiomyogenesis, comprising administering to a cardiomyocyte or tissue comprising cardiomyocytes in need thereof a dose of a polynucleotide that encodes the vascular endothelial growth factor, ~~VEGF-165~~VEGF1-165 ~~, or that encodes a polypeptide comprising an active site of the VEGF-165~~, wherein the coding sequence is operably linked to a CMV promoter and is in a plasmid vector, the dose being sufficient to induce ~~arteriogenesis, lymphangiogenesis, vasculogenesis, or~~ cardiomyogenesis.

Claim 2. (Currently amended) The method of claim ~~100~~ 1, wherein the VEGF1-165 has the amino acid sequence:

Ala	Pro	Met	Ala	Glu	Gly	Gly	Gly	Gln	Asn
His	His	Glu	Val	Val	Lys	Phe	Met	Asp	Val
Tyr	Gln	Arg	Ser	Tyr	Cys	His	Pro	Ile	Glu
Thr	Leu	Val	Asp	Ile	Phe	Gln	Glu	Tyr	Pro
Asp	Glu	Ile	Glu	Tyr	Ile	Phe	Lys	Pro	Ser
Cys	Val	Pro	Leu	Met	Arg	Cys	Gly	Gly	Cys
Cys	Asn	Asp	Glu	Gly	Leu	Glu	Cys	Val	Pro
Thr	Glu	Glu	Ser	Asn	Ile	Thr	Met	Gln	Ile
Met	Arg	Ile	Lys	Pro	His	Gln	Gly	Gln	His
Ile	Gly	Glu	Met	Ser	Phe	Leu	Gln	His	Asn
Lys	Cys	Glu	Cys	Arg	Pro	Lys	Lys	Asp	Arg
Ala	Arg	Gln	Glu	Asn	Pro	Cys	Gly	Pro	Cys
Ser	Glu	Arg	Arg	Lys	His	Leu	Phe	Val	Gln
Asp	Pro	Gln	Thr	Cys	Lys	Cys	Ser	Cys	Lys
Asn	Thr	Asp	Ser	Arg	Cys	Lys	Ala	Arg	Gln
Leu	Glu	Leu	Asn	Glu	Arg	Thr	Cys	Arg	Cys
Asp	Lys	Pro	Arg	Arg	(SEQ ID NO: 1).				

Claims 3-9. (canceled)

Claim 10. (original) The method of claim [[4]] 1, wherein the cardiomyogenesis is induced *in vitro*, *in vivo*, or *ex vivo*.

Claim 11. (currently amended) The method of claim [[4]] 1, wherein the induced cardiomyogenesis is localized.

Claim 12. (currently amended) The method of claim [[4]] 1, wherein the cardiomyogenesis is induced in normoperfused tissue, *in vitro*, *in vivo*, or *ex vivo*.

Claim 13. (currently amended) The method of claim [[4]] 1, wherein the cardiomyogenesis is induced in ischemic tissue, *in vitro*, *in vivo*, or *ex vivo*.

Claim 14. (currently amended) The method of claim [[4]] 1, wherein the cardiomyogenesis is induced in myocardial tissue, *in vitro*, *in vivo*, or *ex vivo*.

Claims 15-18. (canceled)

Claim 19. (original) The method of claim 1, wherein the cell or tissue is eukaryotic.

Claim 20. (original) The method of claim 1, wherein the cell or tissue is mammalian.

Claim 21. (original) The method of claim 1, wherein the cell or tissue is porcine or human.

Claim 22. (original) The method of claim 1, wherein the cell or tissue is human.

Claim 23. (original) The method of claim 1, wherein the polynucleotide is a genomic DNA, a cDNA, or a messenger RNA.

Claim 24. (original) The method of claim 23, wherein the polynucleotide encodes the polypeptide represented by SEQ ID NO: 1.

Claim 25. (original) The method of claim 24, wherein the polynucleotide is a cDNA.

Claims 26-30. (canceled)

Claim 31. (original) The method of claim 1, wherein the polynucleotide is administered to the cell or tissue in a liposome.

Claim 32. (canceled)

Claim 33. (Currently amended) The method of claim 1, which is carried out *in vivo*, and wherein a sufficient dose of the polynucleotide is administered to a subject in need of such treatment to induce ~~arteriogenesis, lymphangiogenesis, vasculogenesis, or~~ cardiomyogenesis.

Claim 34. (Currently amended) The method of claim 33, wherein the subject exhibits signs or symptoms of, or suffers from, ischemic heart disease, myocardial infarction, myocardial ischemia, dilated cardiomyopathy, heart failure, or hypertrophic cardiomyopathy.

Claim 35. (original) The method of claim 33, wherein the subject is a human patient.

Claim 36. (original) The method of claim 33, wherein the polynucleotide is in the form of a pharmaceutical composition.

Claims 37-42. (Canceled)

Claim 43. (Currently amended) The method of claim ~~39~~33, wherein the administration is ~~intramuscular and is~~ intramyocardial muscle administration.

Claim 44. (Previously presented) The method of claim 43, wherein the administration is transepicardial or transendocardial administration.

Claims 45-50. (Canceled)

Claim 51. (Currently amended) The method of claim ~~33~~44, wherein the administration is intramyocardial-transepicardial injection under direct visualization, or intramyocardial-transendocardial injection under fluoroscopic guidance.

Claim 52. (Previously presented) The method of claim 43, wherein the polynucleotide is administered by injection perpendicular to the plane of the area of injection.

Claim 53. (Previously presented) The method of claim 43, wherein the polynucleotide is administered by injection parallel to the plane of the area of injection.

Claim 54. (Previously presented) The method of claim 43, wherein the polynucleotide is administered by injection at an oblique angle in relation to the plane of the area of injection.

Claim 55. (original) The method of claim 54, wherein the angle in relation to the plane of the area of injection is between about 30° and about 90°.

Claim 56. (Previously presented) The method of claim 43, wherein the polynucleotide is administered by injections that are homogeneously or heterogeneously distributed in the area of injection.

Claims 57-58. (Canceled)

Claim 59. (currently amended) The method of claim 33, wherein the polynucleotide is administered in a single dose of between about 0.008 and about 0.36 nmoles /kg, wherein the nmoles are of the polynucleotide encoding ~~an active~~ the VEGF polypeptide.

Claim 60. (original) The method of claim 59, wherein the polynucleotide is administered in a single dose of about between about 0.01 and about 0.10 nmoles/kg.

Claim 61. (original) The method of claim 59, wherein the polynucleotide is administered in two or more doses, to achieve a total dose of between about 0.008 and about 0.36 nmoles /kg.

Claim 62. (original) The method of claim 61, wherein the polynucleotide is administered in two or more doses, to achieve a total dose of between about 0.01 and about 0.10 nmoles/kg.

Claim 63. (canceled)

Claim 64. (Previously presented) The method of claim 1, wherein the concentration of the plasmid vector is between about 0.5 and about 4 mg/mL.

Claim 65. (Currently amended) A method for inducing mitosis or proliferation of a cardiomyocyte, comprising administering to the cell a dose of a polynucleotide that encodes the vascular endothelial growth factor, ~~VEGF-165~~ VEGF 1-165 ~~, or that encodes a polypeptide comprising an active site of the VEGF-165~~, wherein the coding sequence is operably linked to a CMV promoter and is in a plasmid vector, the dose being sufficient to induce the mitosis or proliferation.

Claim 66. (Currently amended) The method of claim ~~101~~65, wherein the VEGF1-165 has the amino acid sequence:

Ala	Pro	Met	Ala	Glu	Gly	Gly	Gly	Gln	Asn
His	His	Glu	Val	Val	Lys	Phe	Met	Asp	Val

Tyr	Gln	Arg	Ser	Tyr	Cys	His	Pro	Ile	Glu
Thr	Leu	Val	Asp	Ile	Phe	Gln	Glu	Tyr	Pro
Asp	Glu	Ile	Glu	Tyr	Ile	Phe	Lys	Pro	Ser
Cys	Val	Pro	Leu	Met	Arg	Cys	Gly	Gly	Cys
Cys	Asn	Asp	Glu	Gly	Leu	Glu	Cys	Val	Pro
Thr	Glu	Glu	Ser	Asn	Ile	Thr	Met	Gln	Ile
Met	Arg	Ile	Lys	Pro	His	Gln	Gly	Gln	His
Ile	Gly	Glu	Met	Ser	Phe	Leu	Gln	His	Asn
Lys	Cys	Glu	Cys	Arg	Pro	Lys	Lys	Asp	Arg
Ala	Arg	Gln	Glu	Asn	Pro	Cys	Gly	Pro	Cys
Ser	Glu	Arg	Arg	Lys	His	Leu	Phe	Val	Gln
Asp	Pro	Gln	Thr	Cys	Lys	Cys	Ser	Cys	Lys
Asn	Thr	Asp	Ser	Arg	Cys	Lys	Ala	Arg	Gln
Leu	Glu	Leu	Asn	Glu	Arg	Thr	Cys	Arg	Cys
Asp	Lys	Pro	Arg	Arg	(SEQ ID NO: 1).				

Claims 67-68. (canceled)

Claim 69. (original) The method of claim 65, wherein the cardiomyocyte is in a cardiac tissue.

Claim 70. (canceled)

Claim 71. (original) The method of claim 65, wherein the mitosis or proliferation is induced *in vitro*, *in vivo*, or *ex vivo*.

Claim 72. (original) The method of claim 65, wherein the cell or tissue is eukaryotic.

Claim 73. (original) The method of claim 65, wherein the mitosis or proliferation is localized mitosis or proliferation.

Claim 74. (original) The method of claim 65, wherein the mitosis or proliferation is induced in normoperfused tissue, *in vivo*, *in vitro*, or *ex vivo*.

Claim 75. (original) The method of claim 65, wherein the mitosis or proliferation is induced in ischemic tissue, *in vivo*, *in vitro*, or *ex vivo*.

Claim 76. (original) The method of claim 65, wherein the mitosis or proliferation induces tissue regeneration, *in vitro*, *in vivo*, or *ex vivo*.

Claim 77. (original) The method of claim 76, wherein the tissue is normoperfused tissue.

Claim 78. (original) The method of claim 76, wherein the tissue is ischemic tissue.

Claim 79. (original) The method of claim 76, wherein the tissue is myocardial tissue.

Claim 80. (original) The method of claim 76, wherein the tissue is hypoperfused tissue.

Claims 81-97. (canceled)

Claim 98 (Previously presented) The method of claim 59, wherein the polynucleotide is administered in a single dose of greater than about 0.04 mg/kg.

Claim 99. (Previously presented) The method of claim 98, wherein the polynucleotide is administered in two or more doses, to achieve a total dose of greater than about 0.04 mg/kg.

Claims 100-101. (canceled)

Claim 102. (Previously presented) The method of claim 1, which is a method to reduce infarct size.

Claim 103. (currently amended) The method of claim [[4]] 1, wherein the cardiomyogenesis is induced in hypoperfused tissue, *in vitro*, *in vivo*, or *ex vivo*.

Claim 104. (Previously presented) The method of claim 65, wherein the mitosis or proliferation is induced in hypoperfused tissue, *in vitro*, *in vivo*, or *ex vivo*.

Claim 105. (New) The method of claim 1, further wherein arteriogenesis is induced.